

Site Conservation Planning for Marine Biodiversity Richness Zones within the Orca Pass International Stewardship Area

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Abstract

Regional conservation planning efforts require both science to identify sites to be conserved and policy to identify conservation and management options. Within the Orca Pass International Stewardship Area, we have used regional species and habitat information to identify distinct biological richness zones. We used a representation-based conservation strategy to identify these sites, which has enabled us to overcome some of the limitations of species-by-species approaches by expanding the focus of conservation to include overall biodiversity and, by association, ecosystem process.

While the overall goal for the Orca Pass International Stewardship Area is to steward, conserve and restore local marine associated living resources, there is a gap between identifying the distribution and abundance of resources and appropriate management of those resources. Therefore, identifying priority sites for conservation completes one phase and leads directly into another—site conservation planning. Site conservation planning in Orca Pass involves combining a suite of resources known or believed to occur at a given site with a prospective list of regulations and best management practices. This approach provides a transparent, repeatable process for identifying locations for enhanced conservation and stewardship actions and for partnering with local and regional interests to establish tailored management plans for specific zones within a larger stewardship area.

Establishment of the Orca Pass International Stewardship Area was initiated in 1999 by the Sound & Straits Coalition, an alliance of British Columbia and Washington State non-governmental groups, and joined by the local governments of San Juan County (WA) and the Islands Trust Foundation (BC) in 2000. The local governments, the Sound & Straits Coalition, government agencies, and Native Tribes have since engaged in discussions of a shared strategy to protect and restore critical habitats and resources through designation of protective zones within the trans-boundary Stewardship Area between the Washington San Juan Islands and the British Columbia Southern Gulf Islands. This cooperative effort had as its condition the full recognition of tribal co-management rights, the involvement of all interested publics, and compliance—through education and enforcement—of all applicable federal, provincial, state and local laws and regulations.

The Orca Pass International Stewardship Area boundaries have evolved through the process of species and habitat data analyses and public consultations. As of the time of this paper (May 2003), the area is bordered on the south by the northern and western edge of the San Juan Archipelago (including the north shores of Orcas and San Juan Islands, and the western shores of San Juan and southern portions of Lopez Island). The area extends north through the southern Gulf Islands (to the southern edge of Galliano Island) in the north, and includes portions of the Saanich Peninsula to the west.

Despite the political boundary, the trans-boundary waters within the Stewardship Area between British Columbia and Washington State make up a single ecosystem. These lands and waters are home to the same marine creatures—from orca whales to oystercatchers—and are affected by the same types and sources of pollutants and habitat and population disruptions.

On the U.S. side, the Orca Pass International Stewardship Area of Interest was defined by using publicly available species data collected from the Puget Sound Ambient Monitoring Program, Washington Department of Fish and Wildlife, the Natural Heritage program and the Whale Museum. Habitat data were developed primarily using the Washington Department of Natural Resources' ShoreZone data set and bathymetry data collected from the Washington Department of Fish and Wildlife. In Canada, species data were collected from federal and provincial agencies including the Land Use Coordination Office for data that is publicly available. Additional data on both sides of the border were also collected through expert interviews and expert workshops conducted in partnership with The Nature Conservancy of Washington and The Nature Conservancy of Canada.

The overall biological goal of the Orca Pass initiative is to protect and enhance biodiversity—marine mammals, marine fish, seabirds, invertebrates, and vegetation—by using regional data to delineate localized zones of high biodiversity, by collecting detailed data in these zones, by developing site-specific conservation plans for these zones, and by implementing these conservation plans.

Within this larger Stewardship Area, 14 “core” sites have been identified based on criteria for species aggregations (such as seal haulout sites), sedentary species (such as adult rockfish habitats), sensitive species or life stages (such as seabird nesting areas), pristine habitat representations (such as eelgrass meadows and kelp forests), and unique habitat features. These 14 “biodiversity hotspots” total 55,000 acres, or approximately 16 percent of the Stewardship Area's total 340,000 acres. These “richness zones” form the basis for a resource-driven site conservation process intended to protect biological richness in the Orca Pass Stewardship Area.

Within each of these 14 Richness Zones, more data will be collected in detailing elements of biodiversity in habitat and rare wildlife and ecosystem processes of connectivity and viability. In addition, specific stressors to marine species and habitats will be identified by consulting with users, owners, and managers of these sites.

Each site-specific management plan requires developing an inventory of site-specific marine species and habitats, conservation goals, strategies to achieve these goals, identification and consultation with decision-makers, and analysis of effects on both the biological and human communities.

An application of this methodology to the Sucia Island/Patos Island Richness Zone demonstrates both the opportunities and barriers site-specific management planning encounters. The Sucia/Patos Richness Zone includes a number of small islands in the northern portion of San Juan County. Both Sucia and Patos Islands are primarily in public ownership of the Washington State Parks and Recreation, Washington Department of Natural Resources, the US Fish & Wildlife Service, and the Bureau of Land Management. The marine area of interest is approximately 10,000 acres in size (another 1,000 acres in upland area).

Available data indicates concentrations of harbor seals and haulout sites, rockfish, Pacific cod, walleye pollock, bald eagles, common murre, great blue herons, harlequin ducks, marbled murrelets, pelagic cormorants, seabird colonies, abalone, clams, spiny scallop, Dungeness crab, red and green sea urchin, eelgrass and kelp.

In October 2002, workshop participants identified a conservation goal to preserve the intertidal and subtidal environments and species the same way the upland habitats and species were protected. Participants identified “decision-makers” as including managers of the Bureau of Land Management, U.S. Fish & Wildlife Service, Washington Parks and Recreation, Washington Department of Natural Resources, Washington Department of Fish and Wildlife, and Washington treaty tribes with Usual and Accustomed fishing areas at Sucia/Patos. Identified as “users” were boaters, commercial and sport harvesters, and recreational SCUBA divers. Participants identified a two-pronged strategy to achieve this conservation goal: to “lobby” managers to limit or prohibit harvest using existing management regulations to protect and enhance species diversity and to educate users as to why it was important to limit or refrain from species harvest. Participants identified anticipated effects of carrying out this conservation goal as both negative (harvesters will be upset) and positive (potential “seeding” of fish and shellfish populations to adjacent areas).

Participants also identified a conservation goal to limit the “human footprint” in both the marine and terrestrial environments of the Sucia/Patos Richness Zone. Since Sucia/Patos is a Washington State Marine Park, the primary “decision-maker” manager is Washington State Parks and Recreation Commission and users are recreational boaters. In addition to educating users in best boating practices, participants identified a strategy of both providing a pumpout station in the zone and limiting with a reservation system the number of boats using the area. The effect of carrying out this conservation goal would put a premium on visitation which would have a positive effect (enhancing the visitation experience and making it more democratic) and negative (bumping boating to other marine sites).



Similar site-specific management planning is underway through locally driven efforts in the Waldron Island and Eastern Saturna Island Richness Zones. Future site-specific management planning will be initiated either by local residents or initiated in a partnership of local and government interests in other Orca Pass Richness Zones: Stuart and Spieden Islands, Henry Island and Roche Harbor, Lime Kiln Point/False Bay, Deer Harbor, and San Juan/Middle Channel on the US side and Belle Chain Islets and Cabbage Island, Active Pass, South Pender Island, Portland Island, Gooch Island, and D'Arcy Island and Zero Rocks on the Canadian side.

Implementing these site-specific management plans will require the exercise of the political will of federal, provincial, state and tribal co-managers of resources and habitats in applying all existing authorities to protect species, to control pollution sources, and to manage protected sites. A combination of regulatory measures, user education, and development and adoption of "best practices" guidelines such as those adopted by commercial whale watch operators and SCUBA dive organizations are necessary conditions to achieve long-term compliance with site-specific management.

The approach taken to protect and enhance biological diversity by non-governmental groups and local government proponents of the Orca Pass International Stewardship Area and its richness zones is supported by the Washington/British Columbia International Task Force of federal, provincial and state agencies. The ITF formally supports the goals of Orca Pass to (1) protect and restore important habitats; (2) to establish and monitor specific protected zones; (3) to sustain healthy populations of key species; and (4) to prevent land and water pollution. The ITF has recommended working together to: (1) study habitats and richness zones in Orca Pass; (2) to educate the public on the ecological, historical and cultural values of the Area; and 3) to advance best management practices in the area.

The Orca Pass initiative and its approach to site-conservation planning of richness zones complements the Canadian government's new initiative to establish a National Marine Conservation Area in British Columbia's Southern Gulf Islands, San Juan County's initiative to designate all county waters as a protected area, and the US Fish & Wildlife Service's development of a new management plan for its 84 National Wildlife Refuge sites in the San Juan Archipelago.

For updated information on the Orca Pass International Stewardship Area initiative and site-conservation planning within its richness zones, go to www.orcapass.org.

